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## India

## Grain and Feed Annual

**2010**

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**Report Highlights:**

A significant decline in the 2009 fall harvested grain production and large hikes in government support prices for wheat and rice caused grain prices to surge in recent months, despite near record grain stocks held by the government. Due to food security concerns, the GOI has continued to ban exports of wheat and non-basmati rice. However, the government's overall food security objective was achieved at the cost of a larger food subsidy bill and disruptions in domestic and global trade. Pulse prices also surged to record levels due to a fall in production and increasing consumption despite large imports by government agencies and private trade.

## **Commodities:**

Wheat

Select

## **Production:**

India is heading for another record wheat harvest this summer, aided by a marginal increase in planted area, near optimal growing conditions in major growing areas, and adequate availability of farm inputs. Although the GOI's recent initial estimate pegs 2010 wheat production at 80.3 million tons <sup>[1]</sup>, assuming normal weather conditions through harvest, Post currently forecasts 2010 wheat production to increase to 82 million tons on 28 million hectares compared with 80.6 million tons on 27.8 million hectares in 2009.

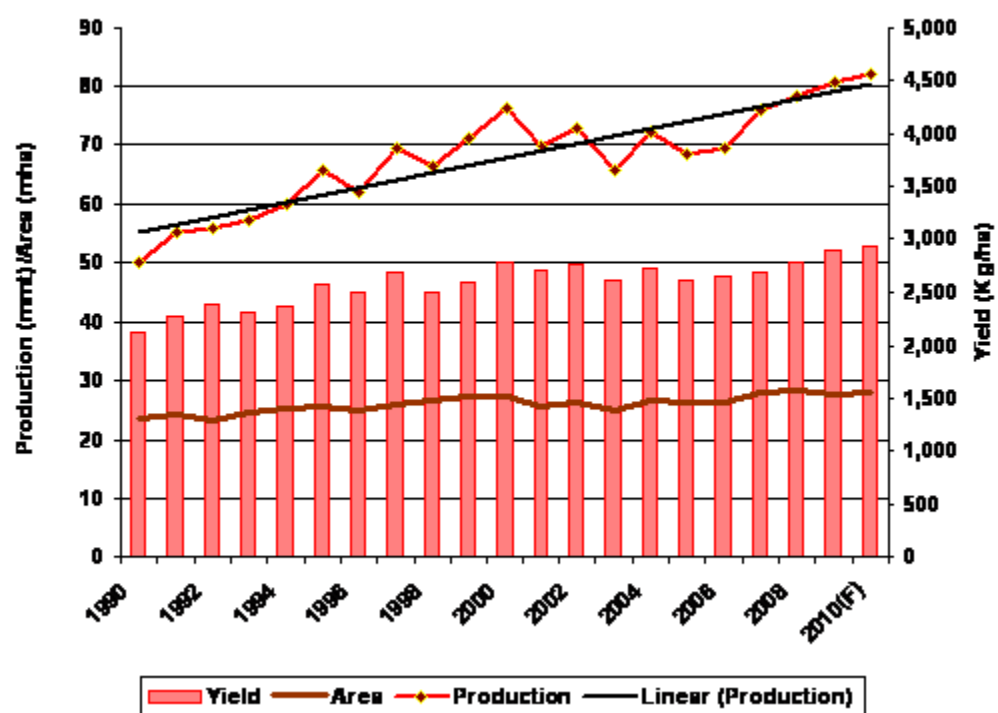
Despite an overall poor summer monsoon last year, above normal late season monsoon rains provided a favorable soil moisture regime for wheat planting in most growing areas, except Rajasthan, where poor soil moisture conditions at planting time reduced wheat and other winter crop (mostly rapeseed) acreage. There was a marginal decline in wheat planting in Uttar Pradesh, Punjab and Haryana due to larger coverage under late-harvested sugarcane in the kharif season, which was more than offset by increased planting in Madhya Pradesh and Bihar. The timely announcement of a hike in the government's minimum support price (MSP) for wheat for MY 2010/11 also provided further impetus to wheat planting.

Although growing conditions so far have been generally favorable, characterized by cool weather and well distributed rains, factors which could adversely affect the final quantity and quality of wheat production include an early or sudden rise in temperature or rains and hail at harvest time. Although approximately 88 percent of India's wheat area has irrigation facilities, confined mostly in the states of Punjab, Haryana and Uttar Pradesh, prolonged cool temperatures in the current period are critical for realizing higher yields.

Indian wheat is largely a soft/medium hard, medium protein, white bread wheat, somewhat similar to U.S. hard white wheat. Wheat grown in central and western India is typically hard, with high protein and high gluten strength, hence fetching a premium. India also produces around 1.2 million tons of durum wheat, mostly in the state of Madhya Pradesh, which, however, is not marketed separately due to segregation problems at the market yard. Lower yields and a small premium vis-à-vis other high yielding and high quality wheat varieties such as Sharbati and Lok 1 grown in this region and the government's wheat export ban have discouraged durum wheat cultivation this year.

Wheat production had remained below the trend line during most of this decade but is again back on the upward trend path in recent years (Figure 1). Although the potential exists to increase wheat yields in most states, realizing that potential is hampered by lack of irrigation, a poor seed replacement rate, and low input use. The existing wheat varieties, released nearly a decade ago, are showing signs of fatigue. New varieties with higher yield potential and better grain qualities released by Indian wheat research institutes and agricultural universities in recent years are yet to reach farmers in adequate volume, due to limited poor seed multiplication facilities.

Fig. 1 Wheat: Area, Production, and Yield



Two major challenges facing Indian wheat cultivation are climate change and Ug99, the dreaded wheat rust. In recent years, wheat production has become more vulnerable to a changing climatic conditions characterized by an earlier than normal spurt in surface temperatures coinciding with the grain filling stage. According to some Indian scientists a one degree Celsius rise in growing season temperature could reduce wheat yields by 3 to 7 percent (production by four to five million tons) <sup>[2]</sup> which however could be minimized by early planting.

Although Indian agricultural scientists claim that the agro-climatic conditions prevailing in the major wheat belt of north India are not congenial for the spread of Ug99, some other experts argue that climatic change and the highly mutative nature of the Ug99 strain could make Indian wheat vulnerable to this rust, as more than three-fourths of the wheat planted in India is susceptible to Ug99. The Indian Council of Agricultural Research (ICAR), India's apex agricultural research agency, is continuously surveying and monitoring wheat crop for the presence of various rusts, including Ug99 and has developed varieties resistant to the Ug99.

<sup>[1]</sup> See: [www.pib.nic.in/release/rel\\_print\\_page.asp?relid=57828](http://www.pib.nic.in/release/rel_print_page.asp?relid=57828)

<sup>[2]</sup> See [http://moef.nic.in/downloads/others/Vulnerability\\_PK%20Aggarwal.pdf](http://moef.nic.in/downloads/others/Vulnerability_PK%20Aggarwal.pdf)

## Consumption:

Despite higher open market prices in recent months, total wheat consumption in MY 2009/10 is estimated to have increased by around 9 percent from the low MY 2008/09 level to 77 million tons partly due to larger supplies from government stocks to contain the price rise. A significant increase in the MSP for wheat kept domestic open market wheat prices high. The GOI is now making wheat available to bulk users at cost-plus prices through an open market sale program. However, the response has been subdued as the government wheat sale prices continue to remain high and the sales process is considered to be bureaucratic and cumbersome by the private trade. Concerned about food inflation, the government recently decided to supply additional quantities of wheat and rice to the Public Distribution System (PDS) clientele at the government support price, which are still higher than the current sales price under various PDS programs. Wheat consumption in MY 2010/11 is forecast to increase marginally to around 78 million tons.

**Table 1: Government Support Price, Issue Price and Procurement of Wheat**

Marketing Year (Apr – Mar)	MSP Rs. per ton	Govt Procurement Million tons	PDS Issue Price Rs. per ton			Food Subsidy Rs. Billion
			APL	BPL	AAY	
2001/02	6,100	20.6 (29.6)	8,300	4,150	2,000	175.0
2002/03	6,200	19.0 (26.1)	6,100	4,150	2,000	241.8
2003/04	6,300	15.8 (24.0)	1/ 6,100	4,150	2,000	251.8
2004/05	6,300	16.8 (23.3)	6,100	4,150	2,000	258.0
2005/06	6,400	14.8 (21.6)	6,100	4,150	2,000	230.8
2006/07	6,500	9.2 (13.3)	6,100	4,150	2,000	240.1
2007/08	8,500	11.1 (14.6)	6,100	4,150	2,000	313.3
2008/09	10,000	22.7 (28.9)	6,100	4,150	2,000	436.3

2009/10	10,800	25.3 (31.4)	2/ 6,100	4,150	2,000	3/ 524.9
2010/11	11,000		6,100	4,150	2,000	

1/ Rs. 5,100 during April 1, 2002 June 30, 2002.

2/ Additional 10 kg per family will be supplied at Rs. 10,800 per ton during January and February 2010.

3/ Budgeted. Actual expected to be higher.

Note: Current exchange rate is Rs. 46.50 = 1 US\$

PDS = Public Distribution System; APL = Above Poverty Line

BPL = Below Poverty Line

AAY = *Antyodaya Anna Yojana* (Poorest of the Poor)

Figures in parenthesis show government procurement as percent of production.

Despite the high support price, which increased by a whopping 69 percent in the past four years, there has been no revision to the government sales price of wheat under various PDS programs since July 2002 (Table 1). While the policies relating to MSP for agricultural crops and the central issue price for the PDS served the twin objectives of providing remunerative prices to farmers and affordable prices to some consumers, the spread between the government's economic cost and the issue price of wheat and rice has widened leading to a surge in food subsidy in recent years. Nonetheless, several states are unable to utilize their full allocation of subsidized grains from the central pool due to poor infrastructure and lack of finance.

Most wheat consumption in India is in the form of homemade *chapattis* or *rotis* (unleavened flat bread), using custom milled *atta* (whole meal flour). Use of branded and packaged *atta*, marketed by large companies, is increasing in cities. There are around 1,000 medium-to-large flourmills in India, with a milling capacity of around 25 million tons, which manufacture mostly *maida* (flour), semolina, and residual flour to cater to institutional demand. Processing 10 to 12 million tons annually, the average capacity utilization by these mills is only around 50 percent. The balance of production, after retention for seed/feed by farmers, is custom milled mostly in the *chakkies* (small flour mills). Typically whole wheat is distributed through the PDS. Durum wheat is not suitable for making chapattis and goes mostly for making pasta products and semolina, which has high demand in south India.

## Trade:

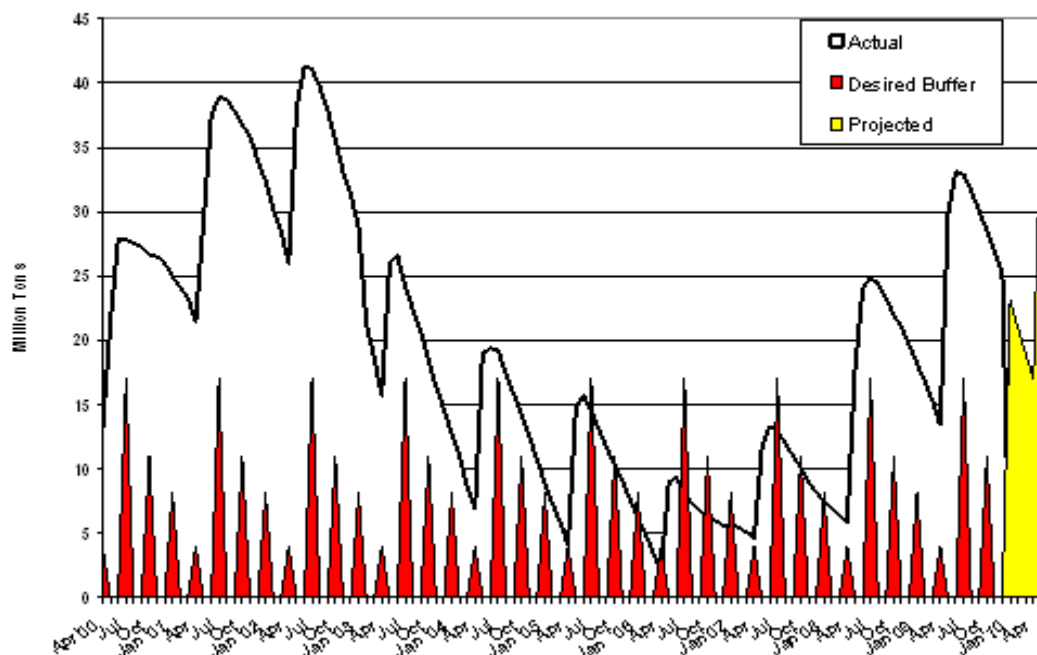
As the government is unlikely to lift the ban on wheat exports in the near future due to domestic food inflation concerns, wheat exports in MY 2010/11 appear unlikely, except small quantities to neighboring countries such as Nepal due to geopolitical reasons. Recently the GOI permitted exports of 50,000 tons of wheat to Nepal by the Food Corporation of India at cost price and some additional possible exports are reportedly in the offing. Even if commercial exports are permitted, the high domestic price of Indian wheat, thanks to the year-after-year hike in the MSP, would make Indian wheat uncompetitive in the world market. According to trade sources, the f.o.b. price of Indian wheat would work out to be over \$300 per ton, considering various state taxes and levies, transportation cost, and fobbing charges on top of the high MSP. At this price there won't be many buyers for Indian wheat, unless there is a very significant government subsidy, which under the present circumstances looks unlikely, or global wheat prices strengthen. Although the GOI has permitted exports of 650,000 tons of wheat products in MY 2009/10, exports so far have been negligible due to the high domestic wheat price.

After importing wheat in MY 2006/07 (6.2 million tons) and 2007/08 (1.8 million tons), India did not import any wheat in MY 2008/09 as the domestic supply situation improved considerably. However, recent high domestic wheat prices prompted some south Indian flour millers to import small quantities of wheat in containers, mostly from Australia, estimated by the trade at around 100,000 tons. Imports would have been higher but for the unpredictable government policies and unreasonable phytosanitary requirements for wheat imports.

## Stocks:

Government-held wheat stocks are projected to increase to around 17.0 million tons on April 1, 2010, compared with 13.5 million tons on April 1, 2009, and the government's desired minimum buffer stock level of 4 million tons. With the government wheat procurement likely to remain high at over 24 million tons in MY 2010/11 because of the hike in the support price and likely larger production, government wheat stocks could swell to a near record high of around 40 million tons on June 1, 2009, (Figure 2), larger than the combined wheat production of Australia and Argentina. The highest ever government wheat stocks in India was 41.3 million tons on June 1, 2002. Estimates of private-held wheat stocks are not available, but are expected to be minimal. The PS&D table does not include private-held stocks.

**Figure 2 India: Wheat Stocks - Actual Vs. Desired Buffer Stocks**



## Policy:

Wheat imports both by the government and private trade currently attract zero import duty. The domestic wheat shortage and higher prices forced the government to lower the duty on wheat imports by the private trade to 5 percent from 50 percent effective June 28, 2006, and further to zero percent effective September 9, 2006, until February 28, 2007, which was further extended up to December 31, 2007. On December 31, 2007, the GOI further extended the zero import duty regime for wheat indefinitely.

On February 9, 2007, the GOI banned exports of wheat and wheat products until December 31, 2007, which was further extended indefinitely on October 8, 2007. Although the GOI permitted exports of three million tons of wheat through public sector trading companies such as STC, MMTC, and PEC on July 3, 2009, on July 13, 2009, the export ban was re-imposed due to food inflation concerns. However, on July 3, 2009, the GOI permitted exports of 650,000 tons of wheat products through March 2010.

The government has permitted states to impose stock limits on the private trade wheat under the Essential Commodities Act and has banned futures trading in wheat to check wheat prices. For the past two years the government has been asking large trading companies operating in India to declare their stock levels.

**Table 2: Commodity, Wheat, Prices Table**

<b>Prices Table</b>			
<b>Country</b>	India		
<b>Commodity</b>	Wheat		
Prices in	Rupees	per uom	100 Kg
Year	2008	2009	% Change
Jan	1,110	1,180	+6.3
Feb	1,120	1,185	+5.8
Mar	1,115	1,165	+4.5
Apr	1,065	1,085	+1.9
May	1,075	1,080	+0.4
Jun	1,085	1,070	-1.4
Jul	1,100	1,105	+0.5
Aug	1,100	1,125	+2.3
Sep	1,090	1,160	+6.4
Oct	1,100	1,225	+11.4
Nov	1,140	1,400	+22.8
Dec	1,140	1,365	+19.7
Exchange Rate	Rs. 46.50	Local Currency/US \$	
Date of Quote	2/09/2010	MM/DD/YYYY	
Month-end Delhi Wholesale Price for Common Wheat			
Source: Department of Consumer Affairs, GOI			

**Marketing:** Despite numerous discussions at technical and policy levels, U.S. wheat still cannot be exported to India. The government's phytosanitary requirement pertaining to the identified (31) quarantine weed seeds (total 100 quarantine seeds per 200 kilogram wheat sample drawn from a single consignment) has effectively banned U.S. wheat shipments to India and forced other exporters to raise bid prices to cover excessive cleaning and the risk of cargo rejection in India. As a result, Indian importers are forced to pay a higher price than other importing nations for similar or lower quality wheat to cover risk premiums. Furthermore, Indian consumers are denied access to their preferred wheat. The Indian wheat-based food industry is modernizing and the fast food industry is growing rapidly, both of which generate demand for specialty flours (pizzas and burger buns) that require varieties of wheat that India does not grow. There is rising consumption of wheat in south India due to increased urbanization.

## Production, Supply and Demand Data Statistics:

Table 10: Commodity, Wheat, PSD

Wheat India	2008			2009			2010		
	2008/2009			2009/2010			2010/2011		
	Market Year Begin: Apr 2008			Market Year Begin: Apr 2009			Market Year Begin: Apr 2010		
	USDA Official Data		New Post	USDA Official Data		New Post	USDA Official Data		Jan
			Data			Data			Data
Area Harvested	28,150	28,150	28,150	27,800	27,800	27,800			28,000
Beginning Stocks	5,800	5,800	5,800	13,510	13,500	13,500			17,000
Production	78,570	78,570	78,570	80,580	80,580	80,580			82,000
MY Imports	10	0	0	100	50	100			50
TY Imports	8	0	0	100	50	100			50
TY Imp. from U.S.	0	0	0	0	0	0			0
Total Supply	84,380	84,370	84,370	94,190	94,130	94,180			99,050
MY Exports	100	100	10	50	10	250			250
TY Exports	100	100	10	50	10	250			250
Feed and Residual	100	100	100	100	100	100			100
FSI Consumption	70,670	70,670	70,760	76,020	76,020	76,830			78,000
Total Consumption	70,770	70,770	70,860	76,120	76,120	76,930			78,100
Ending Stocks	13,510	13,500	13,500	18,020	18,000	17,000			20,700
Total Distribution	84,380	84,370	84,370	94,190	94,130	94,180			99,050



**Commodities:**

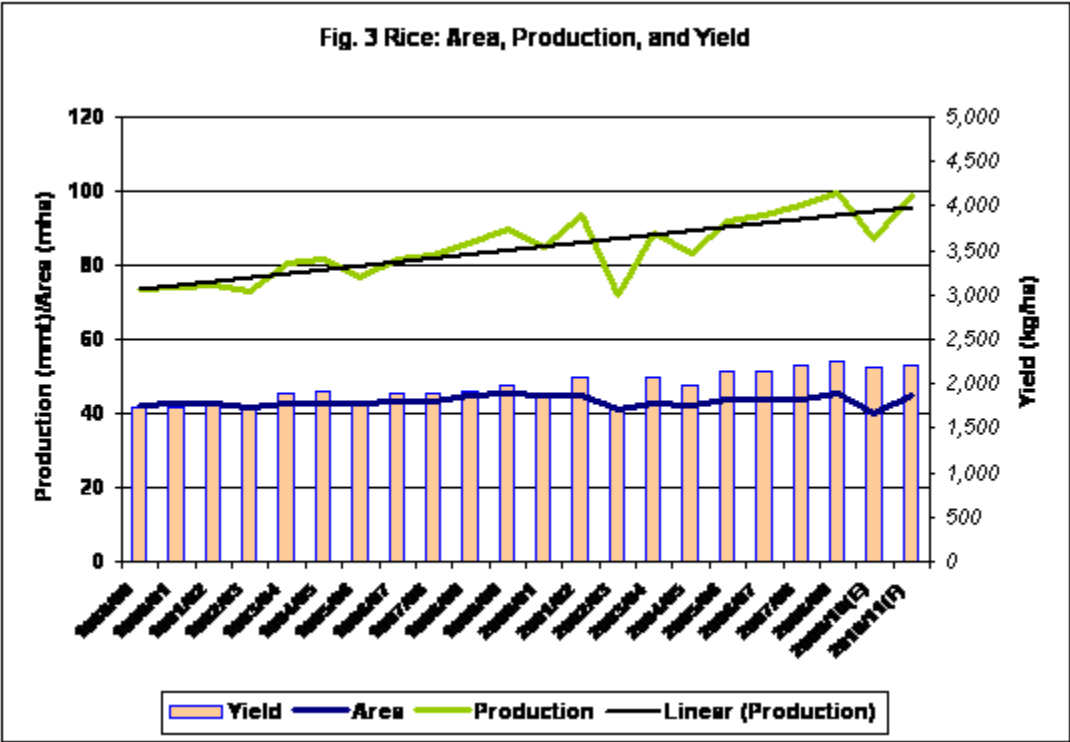
Rice, Milled

**Production:**

Assuming normal monsoon rains this summer, Post forecasts MY 2010/11 rice production <sup>[1]</sup> at 99 million tons from 45.0 million hectares. This is 12 million tons higher than the drought-reduced MY 2009/10 production of 87.0 million tons. The GOI's increased emphasis on rice production level through the National Food Security Mission, the higher support prices and increasing adoption of hybrid rice cultivation plus the System of Rice Intensification (on the margins) support higher production.

Last year's drought reduced 2009 *kharif* (fall and early winter harvested) rice output by almost 13 million tons from the previous year's record level of 84.6 million tons to 71.7 million tons. Losses would have been higher but for the excellent late season rains in some of the major growing states such as Uttar Pradesh and Bihar, which helped to contain further yield losses. Area planted to the irrigated *rabi* (spring-harvested) rice is marginally higher, which combined with favorable growing conditions should result in a larger *rabi* rice harvest estimated at around 15.3 million tons, taking total MY 2009/10 production to around 87.0 million tons. The GOI's preliminary estimate, pegs MY 2009/10 rice production at 87.6 million tons. Although rice production has been showing a steady upward trend since the late 1980's (Figure 3), typically rice production is more volatile compared to wheat as a poor monsoon could bring this largely non-irrigated crop (only around 52 percent of the crop has assured irrigation) down by as much as 15 percent as demonstrated by last year's production performance.

India's basmati rice production is reportedly growing with the introduction of the PUSA 1121 variety, an evolved high yielding variety of basmati rice, grown mostly in Punjab and Haryana. Although no official statistics are available, trade sources peg production of all types of basmati (traditional, Pusa, and Pusa 1121) in MY 2009/10 at around 3.4 million tons from 1.5 million hectares, some 25 percent higher than the previous year, in response to higher price realization last year.



Indian rice yields are well below the world average, implying there is a great potential for increasing production. However, many scientists have expressed concern that current Indian rice production techniques cannot sustain the growing domestic population. Another challenge facing Indian rice production is the impact of climate change, as a major share of rice production takes place near coastal regions, which are susceptible to sea level rise.

Use of high-yielding seed varieties is largely confined to the states that use irrigation. Fertilizer application at the national level is not high, but is near optimum in these states. Area under hybrid rice, developed mostly by private seed companies, is estimated to have increased from 10,000 hectares in 1995 to 1.3 million hectares presently, concentrated mostly in eastern Uttar Pradesh, Bihar, Jharkhand, and Chhattisgarh. The major challenge facing hybrid rice seed producers in India is the vast diversity in the consumer preference for rice, making it difficult to develop the right type of hybrids on a commercial scale. Nevertheless, several hybrid seed varieties with specific consumer-preferred grain quality characteristics are reportedly under development both by government research institutes and by private companies. The National Food Security Mission<sup>[2]</sup> contains a target to cover 3 million ha rice area under hybrid rice by the year 2011-12, to achieve the objective of increasing rice production by 10 million tons. Although efforts are underway to develop transgenic rice varieties to incorporate resistance to various pests and diseases, mostly by private seed companies, approval and commercialization of these are still years away.

Some of the surplus rice growing states in the north are attempting to diversify the intensive rice/wheat rotation due to ecological concerns such as a low water table and soil health. However, a significant shift is not imminent in the absence of a more profitable crop rotation and due to the government's renewed emphasis on rice and wheat production for food security reasons by offering higher MSPs and other incentives.

<sup>[1]</sup> MY 2010/11 rice planting will start with the onset of monsoon in June,

<sup>[2]</sup> See: <http://agricoop.nic.in/NFSM/NFSM.pdf>

## **Consumption:**

Despite larger rice production in MY 2008/09, open market rice prices remain high, as most of the surplus rice was procured by the government at a high support price (Table 3). These higher prices resulted in a marginal increase in rice consumption in MY 2008/09, estimated at 91 million tons. Due to a significant decline in rice production in MY 2009/10, open market prices are likely to remain firm and consumption is expected to drop marginally. To overcome the high rice prices in the open market, the government is allocating more rice from its stocks for distribution through the PDS, somewhat offsetting the reduced consumption outside the PDS.

Numerous varieties of rice are grown in India to meet varied consumer preferences. For government procurement purposes, however, rice is classified into two categories: common (length to breadth ratio less than 2.5) and Grade A (length to breadth ratio more than 2.5). Historically, most government-procured rice came from millers who were obliged to sell the government a portion of their milled rice (ranging from 75 percent in Punjab and Haryana to 50 percent in Andhra Pradesh, and even lower in marginal surplus states) at established rates, called the "levy price," which is linked to the support price of paddy and milling costs. But in recent years, most of the procurement by the government was in the form of paddy bought at the support price, which the government then has custom milled.

With a view to maximize procurement due to food security concerns, the GOI increased the MSP for paddy (un-milled rice) for MY 2009/10 by Rs. 1,000 per metric ton (including a bonus of Rs. 500 per ton) to Rs. 10,000 (\$215) per ton for Common varieties and Rs. 10,300 (\$221.5) per ton for Grade A varieties. As in the case of wheat, the government has not increased the sales price of rice distributed through the PDS since July 1, 2002, although the support price has increased by around over 80 percent since then (Table 3), further contributing to the increasing food subsidy.

**Table 3: Government Support Price of Paddy and Issue Price of Rice**

Marketing Year (Oct-Sep)	Govt Procurement Million tons	MSP for Paddy (Un-milled rice) Rs. per ton		PDS Issue Price for Milled Rice Rs. Per ton		
		Common	Grade A	APL (Common/ Grade A)	BPL	AAY
2001/02	22.1 (23.7)	5,300	5,600	7,950/8,300	5,650	3,000
2002/03	16.4 (22.8)	5,500	5,800	7,950/8,300	5,650	3,000
2003/04	22.8 (25.8)	5,500	5,800	7,950/8,300	5,650	3,000
2004/05	24.7 (29.7)	5,600	5,900	7,950/8,300	5,650	3,000
2005/06	27.7 (30.2)	5,700	6,000	7,950/8,300	5,650	3,000
2006/07	25.1 (26.9)	6,200	6,500	7,950/8,300	5,650	3,000
2007/08	28.5 (29.5)	7,450	7,750	7,950/8,300	5,650	3,000
2008/09	33.3 (33.6)	9,000	9,300	*7,950/8,300	5,650	3,000
2009/10		10,000	10,300	7,950/8,300	5,650	3,000

\* Additional 10 kg per family will be supplied at Rs. 15,370 per ton during January and February 2010.

Note: Current exchange rate is Rs. 46.50 = 1 US\$

APL = Above Poverty Line; BPL = Below Poverty Line; AAY – Antyodaya Anna Yojana. Figures in parenthesis show government procurement as percent of production.

Government domestic rice procurement during MY 2009/10 through January 2010 was 3 percent below the procurement during the corresponding period of MY 2008/09 at 20 million tons. Total MY 2009/10 procurement is likely to reach around 27 million tons.

### Trade:

MY 2009/10 and CY 2010 rice exports are likely to be confined to around 2 million tons of basmati rice as the government export ban on non-basmati rice is likely to continue due to concerns about food price inflation

Although the GOI has banned exports of non-basmati rice since April 1, 2008, basmati rice exports are permitted subject to a minimum export price of \$900 per ton. Based on preliminary official trade data, MY 2008/09 rice exports, mostly basmati rice, totaled 2.1 million tons, due to larger exports of PUSA 1121 variety of basmati rice. There is reported to be good demand for PUSA 1121 basmati rice from West Asian countries, particularly Iran.

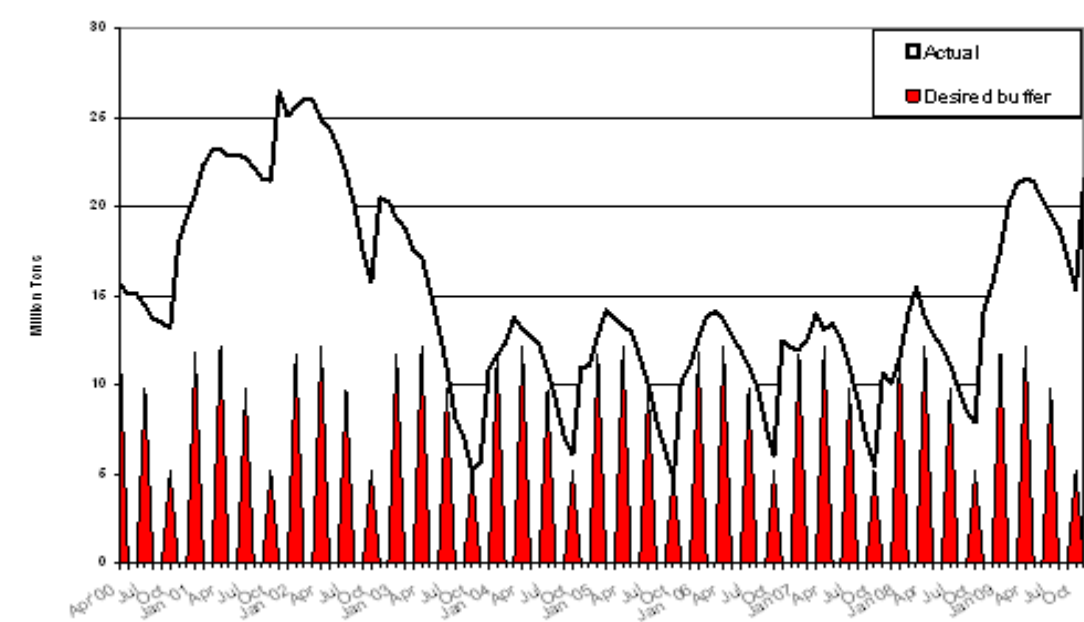
Larger government rice stocks and higher rice procurement from Punjab and Haryana prompted the government to postpone its rice import decision. Earlier, the Commerce Minister and the Finance Minister had discussed the possibility of importing rice on a government-to-government basis from Thailand and Vietnam, amid reports of a projected sharp decline in kharif rice production, which caused global rice prices to surge. In view of the higher global rice prices vis-à-vis domestic prices, rice imports by government and private trade also appear increasingly unlikely in the near-term, despite the fact that the GOI has abolished the import duty on rice up to September 30, 2010.

### Stocks:

Government-held rice stocks on October 1, 2009, were 15.4 million tons, almost twice the level of stocks a year ago, and three times the government's desired October 1 minimum buffer stock level of 5.2 million tons. Stocks are projected at

around 13 million tons on October 1, 2010. The PS&D table includes both government stocks and estimated privately-held stocks.

**Figure 4. India: Government Rice Stocks - Actual Vs. Desired Buffer Stocks**



**Policy:**

Concerns about food price inflation prompted the Indian government to impose various restrictions on rice exports over the past two years. At present exports of non-basmati rice are banned indefinitely and exports of basmati rice are subject to a minimum export price of \$900 per ton. On March 20, 2008, the GOI abolished the import duty on rice up to March 31, 2009, which was later extended up to September 30, 2010. Future trading in rice is currently prohibited.

**Table 4: Commodity, Rice, Milled, Export Trade Matrix**

Export Trade Matrix			
Country	India		
Commodity	Rice, Milled		
Time Period	Jan-Dec	Units:	1000 MT
Exports for:	2008		2009 1/
U.S.	33	U.S.	29

Others		Others	
Bangladesh	1,205	Saudi Arabia	495
Saudi Arabia	653	Iran	384
UAE	467	UAE	433
Kuwait	145	Kuwait	83
Nigeria	66	UK	47
UK	63	Yemen	44
Sri Lanka	44	Singapore	12
Yemen	33	Sri Lanka	11
South Africa	31	Canada	10
Somalia	29	Malaysia	6
Total for Others	2,736		1,525
Others not Listed	614		146
Grand Total	3,383		1,700
1/ January through September 2009 (Preliminary)			
Source: Directorate General of Commercial Intelligence & Statistics, GOI			

**Table 9: Commodity, Rice, Milled, Prices Table**

<b>Prices Table</b>			
<b>Country</b>	India		
<b>Commodity</b>	Rice, Milled		
Prices in	Rupees	per uom	100 Kg
Year	2008	2009	% Change
Jan	1,495	1,675	+12.0

Feb	1,525	1,650	+8.2
Mar	1,550	1,675	+8.1
Apr	1,400	1,550	+6.9
May	1,450	1,550	+6.9
Jun	1,550	1,550	0
Jul	1,500	1,550	+3.3
Aug	1,625	1,650	+1.5
Sep	1,700	1,750	+2.9
Oct	1,700	1,900	+11.8
Nov	1,700	2,000	+17.6
Dec	1,700	2,000	+17.6
Exchange Rate	46.50	Local Currency/US \$	
Date of Quote	2/10/10	MM/DD/YYYY	
Month-end Delhi Wholesale Price for Common Rice			
Source: Department of Consumer Affairs, GOI			

### Marketing:

Although Indian low-quality white rice exports do not pose a direct challenge to U.S. rice exports, Indian high-quality basmati competes against U.S. rice in several markets, particularly in the European Union and in the Middle East.

### Production, Supply and Demand Data Statistics:

**Table 11: Commodity, Rice, Milled, PSD**

Rice, Milled India	2008			2009			2010		
	2008/2009			2009/2010			2010/2011		
	Market Year Begin: Oct 2008			Market Year Begin: Oct 2009			Market Year Begin: Oct 2010		
	USDA Official Data		New Post	USDA Official Data		New Post	USDA Official Data		Jan
			Data			Data			Data
Area Harvested	44,000	44,000	45,600	38,800	38,800	41,000			45,000
Beginning Stocks	13,000	13,000	13,000	17,000	17,000	19,000			15,000
Milled Production	99,150	99,150	99,150	84,500	84,500	87,000			99,000
Rough Production	148,740	148,740	148,740	126,763	126,763	130,513			148,515
Milling Rate (.9999)	6,666	6,666	6,666	6,666	6,666	6,666			6,666
MY Imports	0	0	0	200	200	0			0
TY Imports	0	200	0	200	0	0			0
TY Imp. from U.S.	0	0	0	0	0	0			0
Total Supply	112,150	112,150	112,150	101,700	101,700	106,000			114,000
MY Exports	2,000	2,000	2,100	2,000	2,000	2,000			2,500
TY Exports	2,000	2,000	2,000	2,000	2,000	2,000			2,500
Consumption and Residual	93,150	93,150	91,050	86,700	86,700	89,000			93,500
Ending Stocks	17,000	17,000	19,000	13,000	13,000	15,000			18,000
Total Distribution	112,150	112,150	112,150	101,700	101,700	106,000			114,000

## **Author Defined:**

### **COARSE GRAINS**

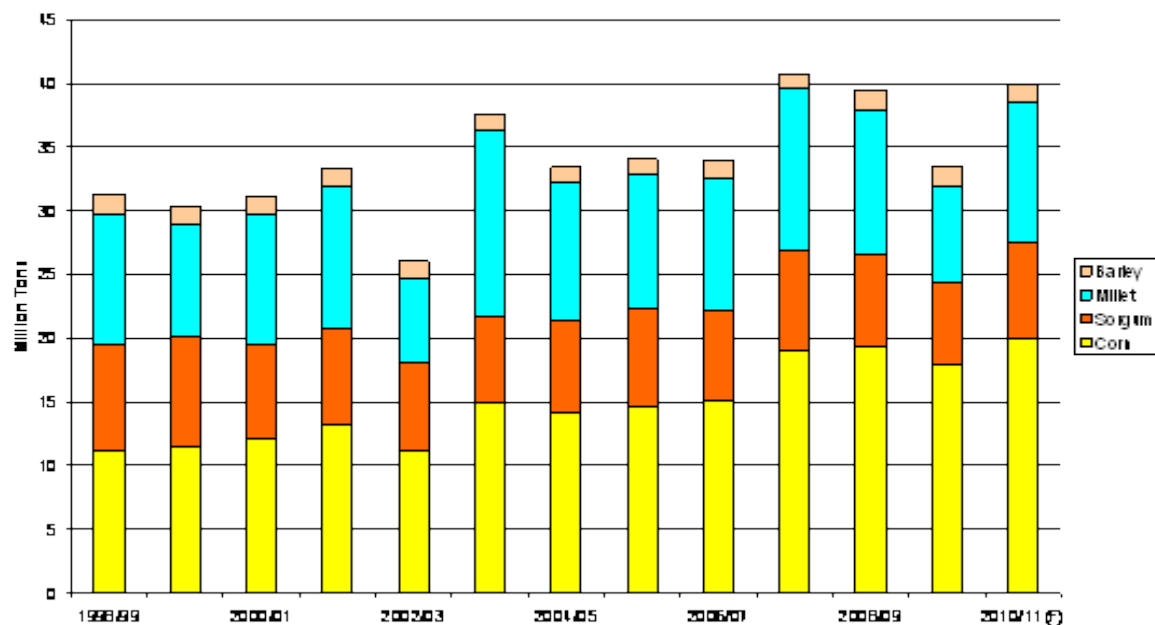
#### **Production**

Assuming a normal monsoon this summer, MY 2010/11 coarse grain production is forecast at 40 million tons, compared to a drought-reduced output of around 34 million tons in MY 2009/10, and record production of 40.8 million tons in MY 2007/08. The MY 2010/11 production forecast includes 20.0 million tons of corn, 7.5 million tons of sorghum, 11.0 million tons of millet, and 1.5 million tons of barley. However, monsoon rains will play a key role, as only 10 percent of the total coarse grain crop is irrigated.

Below normal rainfall in major coarse grain growing regions in 2009 resulted in a sharp decline in area planted to *kharif* coarse grain crops, which combined with lower yields, resulted in a significant decline in *kharif* season coarse grain production. According to the government's preliminary estimates, *kharif* coarse grain production in 2009 was 22.8 million tons (corn – 12.6 million tons, millet – 7.6 million tons, sorghum – 2.6 million tons), the lowest since 2002, against the previous year's 28.3 million tons (corn – 13.9 million tons, millet – 11.3 million tons, and sorghum – 3.1 million tons). However, some of the decline in *kharif* coarse grain production is likely to be offset by a likely increase in *rabi* (winter) season production, mostly corn and sorghum, because of favorable soil moisture conditions and in response to higher prices. Furthermore, historically, the government's subsequent estimates tend to be higher than the preliminary estimates. Post currently estimates MY 2009/10 corn production at 18.0 million tons, sorghum at 6.4 million tons, and millet at 7.6 million tons.

Corn production in India has shown a generally steady upward trend in recent years (Figure 5) with increased coverage under hybrids. However, sorghum production has slowed, due to a shift in area from sorghum to soybeans and other commercial crops such as cotton. Millet production fluctuates widely from year-to-year depending on the monsoon, as it is almost entirely rain-fed. Barley production, which is a small winter crop in north India, has remained stagnant at around 1.3 million tons over the past several years. A decline in area due to a shift toward wheat was largely offset by increased yields. Production has failed to respond to increasing demand from India's growing malt-based beer and health food sectors, because of lower returns vis-à-vis wheat. Most of the barley production in India is feed type, six-row varieties, and unsuitable for malting. However, in recent years good malting type barley varieties have been developed under a public-private breeding program. Some malting and brewing companies have initiated contract farming of malting type barley in Haryana, Punjab, and Rajasthan.

**Figure 5. India: Coarse Grain Production Trend**



## Consumption

Coarse grain consumption is forecast at around 31 million tons in MY 2010/11, marginally higher than the MY 2009/10 level. Food use accounts for a major share of coarse grain consumption, particularly in the case of sorghum, millet, and barley. In the case of corn, however, 7 to 8 million tons (roughly 45 percent of total production) goes for feed use, primarily for poultry feed. Another 1.2 million tons of corn is used by the starch industry. Corn demand by the feed industry had been on the rise after the poultry sector recovered from Avian Influenza in early 2006. However, the outbreak of Avian Influenza in north east India last year and high corn and soy meal prices are likely to retard feed corn demand. Corn demand by the starch industry was on the upswing. However, the slowdown in the domestic and global economy last year might have reduced the demand for starch, mainly used by the textile industry.

The high tannin content in Indian sorghum restricts its use in poultry rations, while its use in the production of industrial alcohol and starch is reportedly increasing. Barley is used mainly for food and feed, although some better quality varieties are used in malting. The total quantity of barley required for malting purposes is estimated at 250,000 tons annually, growing at 10 percent per year. India does not produce any ethanol from cereal grains. Thus, there has been no impact resulting from the domestic ethanol program (which is based on molasses from sugar) on the domestic market for food, feed and trade of cereal grains and its byproducts.

A lower production and a significant increase in the corn support price from Rs. 6,200 per ton in MY 2007/08 to Rs. 8,400 (\$172) per ton in MY 2008/09 will keep corn and other coarse grain prices high.



## **Trade**

Although the government lifted the export ban on corn in mid-October 2008 and provided an export subsidy in the form of a 5 percent duty credit scrip on the F.O.B. value of exports under the *Vishesh Krishi Upaj Yojana* (Special Agricultural Product Scheme), export demand remained subdued, as Indian corn prices remained uncompetitive in the world market, mainly because of a higher support price of Rs. 8,400 (\$181) per ton. Based on preliminary official data, corn exports in MY 2008/09 were around 2.5 million tons, down 50 percent from the MY 2007/08 exports. Although the GOI kept the support price for corn for MY 2009/10 unchanged at Rs. 8,400 per ton, domestic prices continued to remain strong due to lower production. Higher domestic prices (currently at Rs. 9,300 or \$200 per ton), combined with quality concerns due to rains and floods in major growing areas such as Karnataka and Andhra Pradesh, are likely to result in a decline in India's corn exports in MY 2009/10, currently forecast at 1.5 million tons. Corn exports in MY 2010/11 will depend on whether Indian corn will remain competitive in the world market then. Post currently forecasts exports at 2 million tons.

Besides corn, India exports small quantities of barley. Although the Indian trade was interested in importing some high quality U.S. barley for malting, current Phytosanitary restrictions, which require freedom from ergot, do not permit imports. Consequently, traders have reportedly sourced small quantities of barley from Canada.

## **Marketing**

The growth of the poultry and starch industries, once the economy is back on a growth trajectory, is likely to create pressure for access to imported corn. Recent experience shows that the government will abolish import duties to keep prices under control. Unlike wheat and rice, the government does not typically maintain a buffer stock of coarse grains to keep prices in check.

## **Policy**

Since June 2000 a TRQ for corn imports is in place, under which up to 500,000 tons of corn may be imported annually, subject to an in-quota tariff of 15 percent; above-quota imports face a 50 percent duty. However, in February 2007, the government allowed duty free imports through December 2007 and also removed the TRQ until then to encourage imports.

Concerned about the rising domestic price of corn in the face of increasing exports, effective July 3, 2008, the GOI banned exports of corn through October 15, 2008, which was not further extended despite pressure from user industries.

The Ministry of Commerce and Industry, on April 7, 2006, announced a supplement to the GOI's Foreign Trade Policy (2004-2009), which requires all imports containing products resulting from modern biotechnology to receive prior approval via the Genetic Engineering Approval Committee (GEAC), as well as mandating a positive declaration stating that the product is "genetically modified." Importers are responsible for providing this declaration, and likewise are liable if the declaration is incorrect. Punitive action in a case where the consignment does not carry the correct declaration could be up to five times the value of the consignment.

Efforts to produce ethanol from other feed stocks like sweet sorghum, sugar beet, sweet potatoes, etc. are at an experimental stage.

## **PULSES**

### **Production**

India's MY 2010/11 (Apr/Mar) pulse production is forecast at 14.8 million tons, marginally higher from the MY 2009/10 production of 14.7 million tons. A significant decline in the *kharif* season pulse production (mostly pigeon peas, mung beans, and black matpe), tentatively estimated by the government at 4.42 million tons compared to 4.72 million tons in the previous year and the record production of 6.4 million tons in MY 2008/09, due to poor monsoon rains in major growing areas, will be largely offset by higher production in the *rabi* season. According to preliminary planting data, area planted to *rabi* pulses, which include mostly chickpeas, lentils, and peas, at 13.7 million hectares on February 4, is almost 800,000 hectares more than last year, which combined with generally favorable growing conditions could result in a record production of around 10.4 million tons, compared with 10 million tons last year.

India is the world's largest producer of pulses, which are an integral part of the Indian diet, as they provide much-needed protein. Pulses are grown both in the *kharif* and *rabi* seasons, with almost two-thirds produced in the latter. Most pulses are grown under non-irrigated conditions, and depend largely on monsoon and winter rains for growth. Limited varietal improvements, low resilience to moisture stress and pest infestation, and a lack of government support programs have contributed to low yields. Madhya Pradesh, Uttar Pradesh, Maharashtra, Andhra Pradesh, and Karnataka together account for over 70 percent of the country's total pulse production, with Madhya Pradesh alone contributing around 24 percent. Pulse production has failed to respond to the steady increase in both the support prices and open market prices, due to competition from more profitable and assured crops such as wheat and rice and the high risk involved in pulse cultivation. The government's National Food Security Mission aims to increase pulse production by 2 million tons by 2011/12, mostly through the supply of quality seeds and better agronomic practices.

### **Consumption**

Domestic pulse prices have skyrocketed in recent months following a poor *kharif* pulse harvest, higher prices of imported pulses, and increasing demand contributing significantly to the prevailing high food inflation. Against a total consumption requirement of around 17 million tons, domestic production is only around 14 million tons, necessitating large scale imports. However, global availability of pulses, particularly the ones Indian consumers prefer, such as pigeon peas, mung beans, black matpe, etc. is limited and confined to a few countries such as Myanmar. Hence, in recent years, lower priced yellow peas, imported mostly from Canada, have emerged as a major pulse consumed in India, which to some extent can substitute for other high-priced pulses such as pigeon peas and chickpeas. In the wake of high pulse prices, the GOI has also started popularizing the use of yellow peas through propaganda calling it the lowest priced pulse in India with high nutritive value and making available imported split yellow peas through various government distribution net works at Rs. 26 per kg (\$560 per ton).

Despite the fact that India imports significant quantities of pulses, prices continue to remain high due to increasing total demand (though per-capita pulse consumption is shrinking), as households substitute between pulses and other food groups based on relative prices and budget constraints.

## Trade

Pulse imports in MY 2008/09 were around 2.6 million tons. Based on preliminary official data, imports during the first six months of MY 2009/10 were around 1.4 million tons, compared with 890,000 tons during the corresponding period of MY 2008/09. Full MY 2009/10 imports could reach around 2.8 million tons. Imports are forecast to remain strong in MY 2010/11 provided international prices remain reasonable. As India is a price buyer of pulses, there is resistance at high international prices. However, the typically higher priced U.S. green and yellow peas have become more price competitive in the Indian market in recent years due to domestic shortages and higher prices. As a result, imports of pulses from the U.S., mostly dry yellow peas and green peas, witnessed significant growth during the past 6 years, reaching a record 225,000 tons valued at around \$104.5 million in CY 2009, making India the largest market for U.S. pulses.

A factor which could affect pulse imports in the future is the fumigation requirement for the import of pulses. Effective January 1, 2004, pulse (chickpeas, peas) imports from all origins to India were subject to fumigation by methyl bromide at the port of loading to protect domestic production from stem and bulb nematode, pea cyst nematode, and bruchids, per the Plant Quarantine Regulation of Import into India Order, 2003. As methyl bromide is being phased out due to environmental concerns in most countries, it would be difficult and costly to fumigate pulses with methyl bromide at the port of origin. Unless the fumigation requirement is removed, pulse exports from North America to India could be in jeopardy, which could further exacerbate the Indian pulse supply situation leading to a further significant rise in domestic pulse prices. The GOI extended up to March 31, 2010, the arrangement to import pulses shipped from the United States subject to fumigation by methyl bromide at the port of arrival in India.

With the exception of *Kabuli chana* (garbanzos), the GOI has banned exports of all types of pulses. Exports of Kabuli Chana were around 140,000 tons in MY 2008/09.

## Marketing

India's "price buyers" of pulses are unwilling to pay a significant premium for higher U.S. quality, especially when lower-cost pulses are plentiful from other countries. However, there is a niche market for high quality U.S. dry green peas in India. As India is likely to remain a major importer of pulses in the near future and yellow peas will remain as the dominant imported pulses because of its lower price, keys to improving the U.S. position in the Indian pulse market would be expanding the U.S. supply of yellow peas and making them more price competitive vis-à-vis Canada. Shipping yellow peas in bulk would make U.S. pulses more price competitive in India. Most U.S. type beans (navy beans, black beans, pintos, and lima beans), with the exception of green and yellow peas garbanzos, and black eye beans are relatively unknown in India.

## Policy

In a move to contain the rising prices of pulses in the domestic market, effective June 8, 2006, the Indian government exempted pulses from the applicable 10 percent import duty through March 31, 2009.

On January 23, 2007, the Indian government de-listed futures trading in *tur* (pigeon pea) and *urad* (mung beans) until further notice under the assumption that futures contract trading was responsible for the high prices of pulses. In May 2008,



Total Supply	7,497	7,497	7,497	6,247	6,247	6,647			7,622
MY Exports	50	50	50	25	25	25			50
TY Exports	50	50	50	25	25	25			50
Feed and Residual	1,200	1,200	1,200	1,500	1,500	1,500			1,500
FSI Consumption	6,000	6,000	6,000	4,600	4,600	5,000			5,800
Total Consumption	7,200	7,200	7,200	6,100	6,100	6,500			7,300
Ending Stocks	247	247	247	122	122	122			272
Total Distribution	7,497	7,497	7,497	6,247	6,247	6,647			7,622

**Table 14: Commodity, Millet, PSD**

Millet India	2008			2009			2010		
	2008/2009			2009/2010			2010/2011		
	Market Year Begin: Nov 2008			Market Year Begin: Nov 2009			Market Year Begin: Nov 2010		
	USDA Official Data		New Post	USDA Official Data		New Post	USDA Official Data		Jan
			Data			Data			Data
Area Harvested	10,000	10,000	10,000	10,000	10,000	8,500			9,500
Beginning Stocks	250	250	250	290	250	250			50
Production	11,340	11,340	11,340	7,600	7,600	7,600			11,000
MY Imports	0	0	0	0	0	0			0
TY Imports	0	0	0	0	0	0			0
TY Imp. from U.S.	0	0	0	0	0	0			0
Total Supply	11,590	11,590	11,590	7,890	7,850	7,850			11,050
MY Exports	0	0	0	0	0	0			0
TY Exports	0	0	0	0	0	0			0
Feed and Residual	1,000	1,000	1,000	500	500	500			500
FSI Consumption	10,300	10,340	10,340	7,300	7,300	7,300			10,300
Total Consumption	11,300	11,340	11,340	7,800	7,800	7,800			10,800
Ending Stocks	290	250	250	90	50	50			250
Total Distribution	11,590	11,590	11,590	7,890	7,850	7,850			11,050

**Table 15: Commodity, Barley, PSD**

Barley India	2008			2009			2010	
	2008/2009			2009/2010			2010/2011	
	Market Year Begin: Apr 2008			Market Year Begin: Apr 2009			Market Year Begin: Apr 2010	
	USDA Official Data		New Post	USDA Official Data		New Post	USDA Official Data	Jan
			Data			Data		Data
Area Harvested	750	750	750	780	780	780		790
Beginning Stocks	31	29	31	61	20	31		111
Production	1,230	1,230	1,200	1,500	1,500	1,540		1,550
MY Imports	0	0	0	0	0	0		0
TY Imports	0	0	0	0	0	0		0
TY Imp. from U.S.	0	0	0	0	0	0		0
Total Supply	1,261	1,259	1,231	1,561	1,520	1,571		1,661
MY Exports	200	200	200	0	300	150		150
TY Exports	50	200	200	0	300	150		150
Feed and Residual	100	100	100	150	100	100		100
FSI Consumption	900	939	900	1,300	1,000	1,210		1,261
Total Consumption	1,000	1,039	1,000	1,450	1,100	1,310		1,361
Ending Stocks	61	20	31	111	120	111		150
Total Distribution	1,261	1,259	1,231	1,561	1,520	1,571		1,661

**Commodities:**

Select